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The *Antheraea* HÜBNER (Lepidoptera: Saturniidae) of Sulawesi, with descriptions of new species

Part 1: *Antheraea (Antheraea) rosemariae* n. sp.[1]

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Abstract: A new species of the *helferi*-group of the genus *Antheraea* HÜBNER, [1819], *Antheraea (Antheraea) rosemariae* **n. sp.**, from Sulawesi, Indonesia, is described; holotype in MZB, Bogor, Indonesia. The species is closely related and similar to *A. (A.) helferi* MOORE, 1858, but shows clear differences in male genitalia and in habitus. Both sexes (females appear to be dimorphic, either yellow or ochreous) and the male genitalia are illustrated. A single male from Peleng Isl. (Banggai archipelago) differs slightly from the Sulawesian population, being brown, but a Sulawesian specimen shows this colour as well.

Die Arten der Gattung *Antheraea* HÜBNER (Lepidoptera: Saturniidae) von Sulawesi mit der Beschreibung neuer Arten
Teil 1: *Antheraea (Antheraea) rosemariae* n. sp.

Zusammenfassung: Es wird eine neue Art aus der *helferi*-Gruppe der Gattung *Antheraea* HÜBNER [1819] von Sulawesi beschrieben: *Antheraea (Antheraea) rosemariae* **n. sp.**, Holotyp in MZB, Bogor, Indonesien. Die neue Art ist nah verwandt mit *A. (A.) helferi* MOORE 1858 und dieser auch ähnlich, unterscheidet sich aber in klaren männlichen Genitalmerkmalen (Hauptunterschiede: Genitalapparat sehr viel kleiner als bei *helferi*, dorsaler Ast der Valven mit weichen, geraden Borsten anstelle harten, abgeknickten bei *helferi*, dorsale Haube des 8. Tergits kaum sklerotisiert, kleiner und anders geformt als bei *helferi*) und läßt sich auch habituell abgrenzen. Beide Geschlechter sowie männlicher Genitalapparat werden beschrieben und abgebildet. Die ♀♀ sind dimorph, gelb oder hellbeige. Ein Einzelstück von der Insel Peleng (Banggai-Archipel) unterscheidet sich etwas von der Sulawesi-Population, es ist fast einfarbig braun; jedoch kommen gelegentlich solche Stücke auch auf Sulawesi vor.

[1] Results of Project Wallace No. 146.

[2] 38th contribution to the knowledge of the Saturniidae.

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Introduction

During the last decade, collecting on Sulawesi, Indonesia, has resulted in a lot of new saturniid material, including new species in the genus *Antheraea* HÜBNER[1819], and *Samia peigleri* NAUMANN & NÄSSIG 1995.

The specimens of the genus *Antheraea* proved to be especially complex, because the species involved exhibit high individual variability, combined with only minor differences in genitalia morphology in some cases. Work within the *frithii*-group is further complicated due to the search for type material to establish the identity of taxa described earlier.

The genus *Antheraea* is divided into three subgenera (NÄSSIG 1991; NÄSSIG et al., in press a); of these three, only the nominotypical subgenus is known to live on Sulawesi and the Indonesian islands further to the east: the other Oriental subgenus of *Antheraea (Antheraeopsis* WOOD-MASON, 1886) only extends as far as Java, Borneo and the Philippines.

Here we deal with the *helferi*-group of *Antheraea (Antheraea);* the remaining species of *Antheraea* on Sulawesi belong to the *frithii*-group and will be treated in the second part of this publication.

The *helferi*-group consists of two subgroups: the first consists of the East Palaearctic species *yamamai* GUÉRIN-MÉNEVILLE, 1861, from Japan and NE Asia, *superba* INOUE, 1964, **stat. nov.** as separate species, from Taiwan, and *diehli* LEMAIRE, 1979, from Sundaland; the second contains *helferi* MOORE, 1858, known from N India, the Indochinese Peninsula, Sundaland, and the Philippines, *pratti* BOUVIER, 1928, a species endemic to Sumatra, and the new species *rosemariae* from Sulawesi. In contrast to many species of the *frithii*-group, the *helferi*-group exhibits useful differences in male genitalia morphology. Some information (including illustrations and further references) on the preimaginal morphology of the group is provided by NÄSSIG et al. (in press b).

Abbreviations for museums:

BMNH The Natural History Museum (formerly British Museum (Natural History)), London, U.K.

MZB Museum Zoologicum Bogoriense, Bogor, Indonesia

RMNH Nationaal Natuurhistorisch Museum (formerly Rijksmuseum van Natuurlijke Historie), Leiden, The Netherlands

ZMA Zoological Museum, Amsterdam, The Netherlands

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Abbreviations for private collections:

CRBT collection Ronald BRECHLIN, Tegernsee, Germany
CSKL collection Steve KOHLL, Kayl, Luxembourg
CSKN collection Stefan KAGER, Nürnberg, Germany
CSNB collection Stefan NAUMANN, Berlin, Germany
CTBL collection Thierry BOUYER, Liège, Belgium
CUPW collection Ulrich & Laela H. PAUKSTADT, Wilhelmshaven, Germany
CWAN collection Wolfgang A. NÄSSIG, Frankfurt/Main, Germany
GP no. dissection/genitalia slide number

Antheraea (Antheraea) rosemariae n. sp.

Holotype: ♂, Indonesia, Sulawesi Utara, Dumonga-Bone N. P., 23 March 1985, Camp '1440' [1140 m], at MV light (T. HARMAN & M. G. ALLEN), [Project Wallace], in MZB, Bogor, Indonesia.

Paratypes (all specimens from Indonesia, Sulawesi), ♂♂:
4 ♂♂, as holotype, 21, 23, 23, 25 March, BMNH (1 ♂ GP BM saturniid slide 637) • 1 ♂, S. Sulawesi, Mt. Sampuraga, 2°10' S, 120°45' E, 1400 m, 1.–6. II. 1995, leg. SINJAEV & TARASOV, ex coll. S. NAUMANN, RMNH • 1 ♂, C. Sulawesi, S Batas, 68 km N Wotu, Trans-Sulawesi Highway, 21. X. 1993, disturbed rainforest along road, 1270 m, leg. J. P. & M. J. DUFFELS, ZMA; 1 ♂, C. Sulawesi, S Batas, 60 km N Wotu, Trans-Sulawesi Highway, 22. X. 1993, primary rainforest along road, 2°16' S, 120°47' E, ca. 1000 m, leg. J. P. & M. J. DUFFELS, ZMA • 3 ♂♂, Central Sulawesi, Mt. Sampuraga, 1400 m, 2°10' S, 120°45' E, 25. II.–30. III. 1995, leg. SALK, CRBT • 2 ♂♂, Süd-Sulawesi, Maros, 21. VIII. 1992, leg. BAHRUDDIN, CSKL; 5 ♂♂, Grenze Süd-/Zentral-Sulawesi, nördl. Toraja-Land, Pulu Pulu, VI. 1995, leg. TAJUDDIN, CSKL • 1 ♂, S. Sulawesi, Puncak [Palopo], 850 m, 2. II. 1980 (the earliest collecting year known!), leg. KAGER, CSKN • 1 ♂, Süd-Sulawesi, Tana Toraja, Umg. Puncak Palopo, v. 1994, leg. einh. Fänger, CSNB; 4 ♂♂, Süd-Sulawesi, Tana Toraja, Umg. Puncak Palopo, VI. 1994, leg. BAHARUDDIN, CSNB; 1 ♂, Süd-Sulawesi, Tana Toraja, Straße Rantepao–Palopo, ca. 5 km E Puncak Palopo, ca. 1000 m, 30. VII. 1994, leg. NAUMANN, CSNB; 1 ♂, Süd-Sulawesi, Tana Toraja, Straße Rantepao–Palopo, ca. 5 km E Puncak Palopo, ca. 1050 m, 31. VII. 1994, leg. NAUMANN, CSNB; 1 ♂, Süd-Sulawesi, Tana Toraja, Puncak Palopo, ca. 1200 m, 31. VII. 1994, leg. GALA, CSNB; 3 ♂♂, Batas [= border] Süd-/Zentral-Sulawesi, Gn. Sampuraga, road to Telkom Station (ca. 0.5 km), ca. 1250 m, 2. VIII. 1994, leg. NAUMANN, CSNB; 1 ♂, Zentral-Sulawesi, Lake Poso, vic. Pendolo, ca. 1 km NW Boe (pasture land), 520 m, 3. VIII. 1994, leg. NAUMANN, CSNB (GP no. 939/95 NÄSSIG); 3 ♂♂, Z. Sulawesi, Pompangeo Mts., road Pendolo–Tentena, ca. 2 km N Taripa, ca. 1000 m, 4. VIII. 1994, leg. NAUMANN, CSNB; 19 ♂♂, S. Sulawesi, Mt. Sampuraga, 2°10' S, 120°45' E, 1400 m, 1.–6. II. 1995, leg. SINJAEV & TARASOV, CSNB; 1 ♂, Z. Sulawesi, Kulawi, 1°26' S, 120°00' E, 1000 m, 7.–8. II. 1995, leg. SINJAEV & TARASOV, CSNB; 3 ♂♂, Sulawesi Selatan, Tanah Toraja, Pulu Pulu, ca. 1800 m, VII. 1995, leg. S. ALAM & A. HAKIM,

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CSNB; 21 ♂♂, Sulawesi Selatan, Gn. Sampuraga, 1400 m, VII. 1995, leg. S. ALAM & A. HAKIM[?], CSNB; 3 ♂♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, Telkom-Station, 1300 m, VIII. 1995, leg. GALA, CSNB; 1 ♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, Telkom-Station, 1300 m, 19. VIII. 1995, leg. local collectors, CSNB; 1 ♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, 1300 m, 19. VIII. 1995, leg. NAUMANN & AMIN, CSNB; 3 ♂♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, 1300 m, VIII. 1995, leg. GALA, CSNB; 1 ♂, Sulawesi Tengah, Transsulawesi Taripa-Tentena, ca. 5 km N Taripa, 700 m, 20. VIII. 1995, leg. NAUMANN & AMIN, CSNB; 1 ♂, Sulawesi Tengah, Transsulawesi Taripa-Tentena, ca. 5 km N Taripa, 700 m, 29. VIII. 1995, leg. NAUMANN & AMIN, CSNB; 4 ♂♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, Telkom-Station, 1300 m, 25.-31. VIII. 1995, leg. local collectors, CSNB; 9 ♂♂, Sulawesi Selatan, Tanah Toraja, Pulu Pulu, ca. 1800 m, VIII. 1995, leg. local collectors, CSNB; 4 ♂♂, Sulawesi Selatan, Gn. Sampuraga, 1400 m, VIII. 1995, leg. local collectors, CSNB • 2 ♂♂, Sulawesi, Bantimurung, II. 1994, leg. CASTELEYN, CTBL; 2 ♂♂, Sulawesi C., Pulu Pulu, 2000 m or Puncak Palopo, 700 m, IV. 1994, J.-M. CADIOU, CTBL; 7 ♂♂ (one of them brown), Sulawesi C., Sampuraga [written as "Samplaga"], 15.-18. V. 1994, c/o J.-M. CADIOU, CTBL • 1 ♂, Süd-Sulawesi, Maros, 21. VIII. 1992, leg. BAHRUDDIN, ex CSKL in CUPW; 2 ♂♂, Sulawesi Selatan, Puncak Palopo, ca. 750 m, V. 1995, leg. BAHRUDDIN, CUPW; 2 ♂♂, Sulawesi Selatan, 20 km NNW Rantepao, Pulu Pulu, ca. 1600 m, VII. 1995, leg. S. ALAM & A. HAKIM, CUPW; 1 ♂, Sulawesi Selatan, Puncak Palopo, ca. 1300 m, VII. 1995, leg. GALA, CUPW; 20 ♂♂, Sulawesi Selatan, Gn. Sampuraga, 1400 m, VII. 1995, leg. S. ALAM & A. HAKIM[?], CUPW; 5 ♂♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, Telkom-Station, 1300 m, VIII. 1995, leg. local collectors, CUPW; 3 ♂♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, 1300 m, VIII. 1995, leg. GALA, CUPW; 1 ♂, Sulawesi Tengah, Transsulawesi Taripa-Tentena, ca. 5 km N Taripa, 700 m, 29. VIII. 1995, leg. NAUMANN & AMIN, in CUPW; 5 ♂♂, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, Telkom Station, 1300 m, 25.-31. VIII. 1995, leg. local collectors, CUPW; 9 ♂♂, Sulawesi Selatan, Tanah Toraja, Pulu Pulu, ca. 1800 m, VIII. 1995, leg. local collectors, CUPW; 4 ♂♂, Sulawesi Selatan, Gn. Sampuraga, 1400 m, VIII. 1995, leg. local collectors, CUPW • 1 ♂, Süd-Sulawesi, Tanah Toraja, Puncak Palopo, VI. 1994, leg. BAHARUDDIN, ex CSNB in CWAN; 1 ♂, Süd-Sulawesi, Tanah Toraja, Straße Rantepao-Palopo, ca. 5 km E Puncak Palopo, ca. 1000 m, 30. VII. 1994, leg. NAUMANN, ex CSNB in CWAN; 2 ♂♂, Z. Sulawesi, Pompangeo Mts., road Pendolo-Tentena, ca. 2 km N Taripa, ca. 1000 m, 4. VIII. 1994, leg. NAUMANN, ex CSNB in CWAN (GP nos. 923/95 & 938/95 NÄSSIG); 3 ♂♂, South Sulawesi, road Palopo-Rantepao, Puncak Palopo, 1100 m, 25. IX. 1995, leg. H. SCHNITZLER, CWAN; 4 ♂♂, Central Sulawesi, road Tentena-Taripa, Pompangeo Mts., 700 m, 24. IX. 1995, leg. H. SCHNITZLER, CWAN; 1 ♂, Central Sulawesi, road Palu-Gimpu, Kulawi, 650 m, 21.-22. IX. 1995, leg. H. SCHNITZLER, CWAN.

♀♀:

1 ♀ (the only presently known yellow ♀), Sulawesi Utara, Gn. Muajat, 1780 m, 8.-9. X. 1985, M. R. DE JONG, lower montane rainforest, at light, ZMA • 1 ♀, S.

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Sulawesi, Mt. Sampuraga, 2°10′ S, 120°45′ E, 1400 m, 1.–6. II. 1995, leg. SINJAEV & TARASOV, CSNB; 1 ♀, Sulawesi Selatan, Gn. Sampuraga, 1400 m, VII. 1995, leg. S. ALAM & A. HAKIM[?], CSNB; 1 ♀, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, 1300 m, VIII. 1995, leg. GALA, CSNB • 2 ♀♀, Sulawesi Selatan, Gn. Sampuraga, 1400 m, VII. 1995, leg. S. ALAM & A. HAKIM[?], CUPW; 1 ♀, Sulawesi Selatan, Tanah Toraja, Puncak Palopo, Telkom Station, 1300 m, 25.–31. VIII. 1995, leg. local collectors, CUPW • 1 ♀, South Sulawesi, road Palopo-Rantepao, Puncak Palopo, 1100 m, 25. IX. 1995, leg. H. SCHNITZLER, CWAN.

Voucher material of the paratypes will later be deposited in Indonesia (Museum Zoologicum Bogoriense, Bogor) and given to other collections (museum and private).

Additional material studied (not paratype): 1 ♂, Banggai Archipelago, Peleng Isl., Luksag [Luksagu], ca. 300 m, 25. II.–4. III. 1986, S. NAGAI leg., CWAN, GP 924/95 NÄSSIG.

Description and differences in comparison to *A. helferi*

Males (Figs. 1, 2): Length of forewing (lfw): 78.8 mm (n = 30, maximum 85 mm, minimum 72 mm); approximately the same size as Sundanian specimens of *A. helferi*, perhaps less variable (*A. helferi* shows extreme variability in wingspan).

The ♂♂ are variable in the ground colour, with this ranging from orange-brown to orange or yellowish brown, the latter condition possibly due to fading. The forewings (fw) of fresh specimens are variably suffused with vivid pink at least basally, and often extending over more than half the area of the wing to the postmedian line. The pink scaling tends to be lost with age. This pink colour is always more pronounced, more uniform and much deeper than in *helferi*, which tends to be more brownish on average; the pink is rarely mixed with white. The "darkened venation" pattern of the fw of most specimens of *A. helferi* (Fig. 6) and, less so, *A. pratti*, is not known from *A. rosemariae* ♂♂ so far. The red-and-white pattern of the fw apex and the black costal dot at its base are on average slightly more prominent than in *A. helferi*. The costa is more or less greyish (black and white scales mixed in different proportions); both costae are connected by a greyish band across the prothorax above the head. The body is otherwise uniform dark orange brownish.

The ground colour of the hindwings (hw) is always dark orange brownish, fading to a more yellowish brown. The black "eyelid" above the hindwing eyespot, a typical pattern of all species of the *helferi*-group (HOLLOWAY

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1987, NÄSSIG 1991), is present in *A. rosemariae*, but on average less pronounced than in *A. helferi* or *A. pratti*.

Further differences from *A. helferi* include: antennae on average smaller (ca. 1.6 cm long and 0.7 cm broad as compared with ca. 1.8 cm/0.8 cm in *helferi*); fw apex on average narrower, but more elongate and slightly more rectangular than in *helferi* and with a square-like tip (somehow variable and not always reliable).

The singleton from Banggai, Peleng island (Fig. 3), differs from Sulawesi material by being much darker (dark chocolate brownish), nearly without the pinkish scaling so characteristic of typical *rosemariae*. Its apex is much darker, with a blackish line parallel to the outer margin limiting the red-and-white apical pattern. A similar dark brownish ground colour is known from a single ♂ from Sulawesi as well (in CTBL).

Male genitalia (Fig. 7): Much smaller than those of *A. helferi* (Fig. 9). Aedeagus about 15–20 % shorter than in *helferi;* less sclerotized and less scobination at its distal tip. The "third lobe of the valves" (or labide or an alteration of the transtilla, compare NÄSSIG 1991) is entire, undivided (in *helferi* it is more strongly sclerotized and bilobed at its apex). The dorsal lobe of the valves is straight (bent in *helferi*) and covered at its tip with many small bristles (only about 4, but very strong, long, curved bristles in *helferi*). The juxta is much broader in *helferi*. The uncus, which is flexed down ventrally and seems to support the aedeagus, has a different shape in the two species. The "hyperuncus", which connects the tegumen with the 8th tergite, is differently shaped. For details see the illustrations. The "hood" of the 8th tergite is very strongly sclerotized and bent like a helmet over the genitalia in *helferi;* in *rosemariae* it is much less sclerotized, differently shaped and not helmet-like.

The singleton from Banggai (Fig. 8) is very similar to the specimens of Sulawesi; the "hood" of the 8th tergite is nearly unsclerotized, and there seem to be slight differences in the shape of the transtilla ("third lobe of

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Colour plate:

Figs. 1–5: *Antheraea (Antheraea)* ***rosemariae*** **n. sp. Fig. 1:** ♂, paratype (PT), pinkish redbrown form, Süd-Sulawesi, Tana Toraja, CWAN. **Fig. 2:** ♂, PT, orange form, Süd-Sulawesi, Tana Toraja, CWAN. **Fig. 3:** ♂, dark brownish form from Banggai, Peleng Isl., CWAN. **Fig. 4:** ♀, PT, yellow form, Sulawesi Utara, Gn. Muajat, ZMA. **Fig. 5:** ♀, PT, pale bright ochreous-brownish form, S. Sulawesi, Puncak Palopo, CWAN. **Fig. 6:** *Antheraea (Antheraea) helferi* MOORE 1858, ♂, W. Malaysia, Pahang, Genting Highlands, CWAN.

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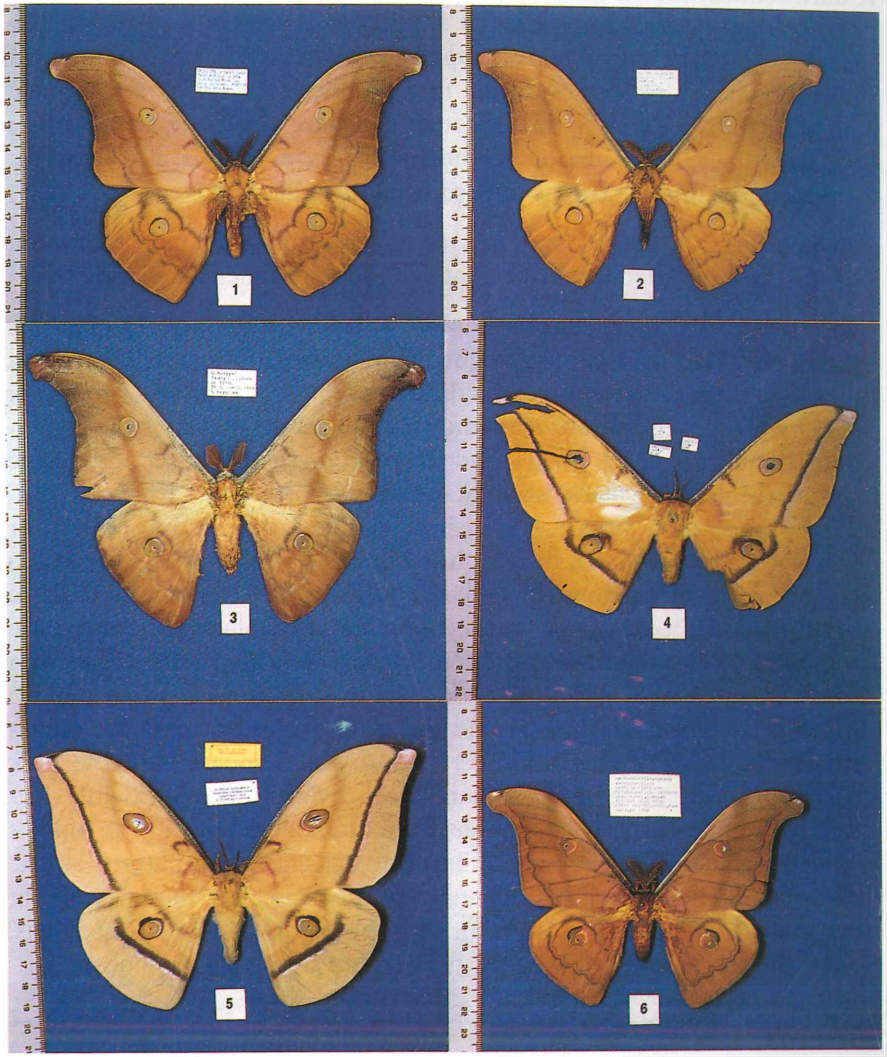

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the valves") and in a few other details, but the status of this population cannot be resolved from a single specimen.

A dark reddish brown male from Seram taken by JDH in 1987 (1200 m, northern slopes of Gunung Binaia) appears to represent a further member of the *helferi*-group. The fw shape is somewhat different from that of *rosemariae*, and the species differs in a number of features of the male genitalia (BMNH sat slide 638), though these are similar in size to those of *rosemariae*. The reduction of the hw black "eyelid" is also extreme. More material of this taxon is needed to confirm its status.

Females (Figs. 4, 5): lfw 86.8 mm (n = 5, maximum 96 mm, minimum 75 mm); strong variability in size, though most specimens are large.

There are two colour morphs known: a yellow one (Fig. 4; only 1 ♀ known, in ZMA) and a pale bright ochreous-brownish one (Fig. 5; all other ♀♀). Even the yellow form is different from the yellow ♀♀ of *helferi;* the ochreous ground-colour is unknown in all other species of the *helferi*-group, but occurs in the *pernyi*- and the *paphia*-group. Both morphs have a distinctly deep jet-black, straight postmedian fascia, much more prominent than in *helferi;* it is proximally mixed with some yellow or ochreous scales and hairs; distally it is bordered with pinkish-grey scales forming an inconspicuous wavy band, much less pronounced than in *helferi*. Also the costa tends to be more uniform black (i.e., there are fewer white scales mixed into the colour) than in *helferi*. The yellow form is very deep orange-yellow (deeper than in *helferi*) with some pinkish suffusion along the basal fascia and the costa of the fw; there are only a very few (much less than in *helferi*) white scales mixed with the pink distal, wavy part of the postmedian fascia. Even the hw is slightly suffused with pink scales. The ochreous form often lacks most of the pink; it is much paler and sometimes duller, but has the same pattern as the yellow form. The red-and-white pattern of the fw apex is more prominent than in *helferi*. The body is uniform with the ground colour of the wings, except the connection between the dark costae across the prothorax.

B&W Plate:

Figs. 7–9: Male genitalia of *Antheraea*. **Fig. 7:** *Antheraea (Antheraea) rosemariae* n. sp., ♂, no. 923/95 NÄSSIG, PT, Central Sulawesi, Pompangeo Mts. **Fig. 8:** *Antheraea (Antheraea) ?rosemariae* sp. n., ♂, no. 924/95 NÄSSIG, Banggai, Peleng isl. **Fig. 9:** *Antheraea (Antheraea) helferi*, ♂, no. 922/95 NÄSSIG, West Malaysia, Pahang, Genting Highlands.

A = aedeagus; B = tegumen/valves complex, C = dorsal "hood" of the 8th tergite.

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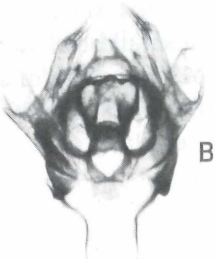
B

C

7

A

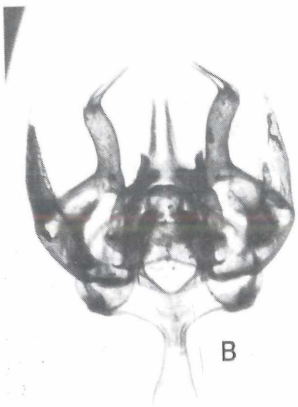


B

A

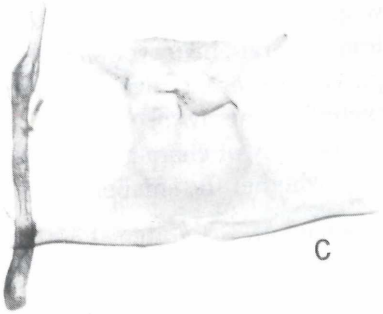
8

C



B

9 A



C

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The female genitalia are not dissected.

Preimaginal morphology: A ♀ collected in August 1995 at Puncak Palopo (1300 m) by local collecctors produced 6 eggs. The larvae hatched, but died without feeding within 2 days in the heat of Jakarta on the journey home (of SN). The eggs are nearly circular, with the micropyle on the side, slightly flattened; the colour is bright brownish, speckled with light and dark. The L_1 caterpillar (illustrated in NAUMANN 1995) shows the typical basic pattern and colour of larvae of the *helferi*-group (compare NÄSSIG 1991, NÄSSIG et al., in press b) and is compared here with the larvae of *A. helferi* and *A. pratti* as illustrated in the latter publication. Head and prothoracic shield are blackish (reddish or brown in the other species). Ground colour of body deep yellow. The dorsal scoli on metathorax are black and stand in a single black field (in *helferi* and, less so, in *pratti*, this black field is elongated triangularly towards the anal end on abdominal segment 1). The dorsal scoli on abdominal segment 8 are fused and black, all other scoli are yellow. There is a small black dot laterally on the anal prolegs (lacking in the other species). Middorsal and supralateral longitudinal lines are reddish-brown (similar in *helferi* and *pratti*). The basolateral stripe is very prominent jet-black (much more pronounced than in the other two species, where this stripe may even be disconnected at the intersegmentals).

Later instars, foodplants and ecology are unkown, though most material has been taken in montane localities, possibly associated with the lower montane forest zone that commences at around 1000 m.

Etymology: The species is named for Rosemary ALLEN at the request of Col. Michael ALLEN who collected the holotype.

Discussion

The new species *A. rosemariae* is a close relative of *A. helferi*, but seems to have a long separate history. Some characters appear to be plesiomorphic as compared with other species of the *helferi*-group (e.g., the less developed "eyelid" of the hw ocellus in males or the prominent fw apex pattern). The polarity of characters of the male genitalia requires further research; e.g., whether the smaller size is a derived or ancestral feature.

It is somewhat surprising that the new species was not discovered earlier (the first specimen known to us collected in 1980); only a very few speci-

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mens were collected prior to the last two years when so many have been found. No author has reported a *helferi*-like species from Sulawesi before us. There is a long history of collecting on Sulawesi: besides the old localities close to the coast and in North Sulawesi there has been intensive collecting in South and Central Sulawesi (the Toraja area) and at other places inland during the last decades (compare, e.g., PAUKSTADT & PAUKSTADT 1989, 1991). An explanation may be that adult emergence is highly localized and sporadic. During the year in the field covered by lepidopterists on Project Wallace (KNIGHT & HOLLOWAY 1990), only Mike ALLEN and Tony HARMAN collected the species in numbers, the specimens coming in three of five consecutive nights. Many other people, including JDH, ran light-traps in the same locality without encountering the species despite excellent collecting conditions.

The yellow female in ZMA was also taken during Project Wallace and, with the ALLEN/HARMAN material, represents the only record of the species from the Minahasa Peninsula. Female material is too limited for us to comment on the nature of its variability, only to affirm the conspecifity of the yellow and the ochreous brown forms.

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References

HOLLOWAY, J. D. (1987): The moths of Borneo, part 3, Lasiocampidae, Eupterotidae, Bombycidae, Brahmaeidae, Saturniidae, Sphingidae. Kuala Lumpur (Southdene), 199 pp., 163 figs., 20 col. pls.

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KNIGHT, W. J., & HOLLOWAY, J. D. (eds.) (1990): Insects and the rain forests of South East Asia (Wallacea). - London (Royal Entomological Society), 343 pp.

NAUMANN, S. (1995): Die Saturniidenfauna von Sulawesi. - Dissertation, FU Berlin, 145 pp., 17 pls.

——, & NÄSSIG, W. A. (1995): *Samia peigleri* n. sp., eine neue Saturniide von Sulawesi, Indonesien (Lepidoptera, Saturniidae). - Nachr. entomol. Ver. Apollo, Frankfurt/Main, N.F. **16** (1): 13-27.

NÄSSIG, W. A. (1991): New morphological aspects of *Antheraea* HÜBNER and attempts towards a reclassification of the genus (Lepidoptera, Saturniidae). - Wild Silkmoths '89-'90 (eds. H. AKAI & M. KIUCHI): 1-8.

——, LAMPE, R. E. J., & KAGER, S. (in press a): The Saturniidae of Sumatra (Lepidoptera). - Heterocera Sumatrana **10.**

——, ——, & —— (in press b): The Saturniidae of Sumatra, Appendix I: Remarks on the preimaginal instars of some Sumatran and South East Asian species of Saturniidae, with special emphasis on the genus *Antheraea* (Lepidoptera). - Heterocera Sumatrana **10.**

PAUKSTADT, U., & PAUKSTADT, L. H. (1989): Reisen und entomologische Aufsammlungen auf Celebes (Indonesien). 1. allgemeiner Teil: Ein entomologischer Reisebericht. - Nachr. entomol. Ver. Apollo, Frankfurt/M., N.F. **10** (3): 193-214.

——, & —— (1991): Reisen und entomologische Aufsammlungen auf Celebes (Indonesien). 2., spezieller Teil: Saturniidae (Lepidoptera) von Celebes. - Nachr. entomol. Ver. Apollo, Frankfurt/M., N.F. **12** (1): 17-27.

Corrigenda

Zu: S. NAUMANN & W. A. NÄSSIG (1995): ***Samia peigleri* n. sp., eine neue Saturniide von Sulawesi, Indonesien (Lepidoptera: Saturniidae).** – Nachr. entomol. Ver. Apollo, Frankfurt/Main, N.F. **16** (1): 13–27.

Leider wurde durch ein Versehen ein Literaturzitat vergessen; das folgende Zitat muß in der Literaturliste des Artikels ergänzt werden:

PEIGLER, R. S. (1989): A revision of the Indo-Australian genus *Attacus*. - Beverly Hills, Calif. (Lepidoptera Research Foundation), xi + 167 S.

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